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BURLINGAME, A.H.		
BUSBY, W.S.		
CARNIVAL, G.J.		
CORDOVA, R.C.		
DAVIS, J.G.		
FERRERA, D.W.		
FRAY, R.E.		
GEIS, J.A.		
GLOVER, W.S.		
GOLAN, P.M.		
HANNI, B.J.		
HEALY, T.J.		
HEDAHL, T.G.		
HILBIG, J.G.		
HUTCHINS, N.M.		
JACKSON, D.T.		
KELL, R.E.		
KUESTER, A.W.		
MARX, G.E.		
McDONALD, M.M.		
McKENNA, F.G.		
MORGAN, R.V.		
PIZZUTO, V.M.		
POTTER, G.L.		
SANDLIN, N.B.		
SATTERWHITE, D.G.		
SCHUBERT, A.L.		
SCHWARTZ, J.K.		
SETLOCK, G.H.		
STIGER, S.G.		
TOBIN, P.M.		
VOORHEIS, G.M.		
WILSON, J.M.		
O'NEILL K	X	
HOLLOWELL L	X	

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Reviewed for Addressee
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9-19-94 RAM
DATE BY

Ref Ltr. #

DOE ORDER # 5400.1

RF-46522 (Rev.6/94)

Department of Energy

SEP 16 2 10 AM '94

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

EG&G
ROCKY FLATS PLANT
CORRESPONDENCE CONTROL

SEP 07 1994

94-DOE-09214

Mr. Martin Hestmark
U. S. Environmental Protection Agency, Region VIII
ATTN: Rocky Flats Project Manager, 8HWM-RI
999 18th Street, Suite 500, 8WM-C
Denver, Colorado 80202-2405

Mr. Joe Schieffelin
Hazardous Waste Facilities Unit Leader
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

Gentlemen:

The purpose of this letter is to advise you of the Department of Energy (DOE) decision for the completion of three additional groundwater monitoring wells to support the Operable Unit (OU) 11 RFI/RI.

Implementation of the Revised Field Sampling Plan (FSP) for OU 11 was initiated June 16, 1994. An objective of the Revised FSP is to determine if contamination exists in the vadose zone. Activities associated with this objective include: 1) the collection and analysis of soil samples from boreholes; 2) installation of groundwater monitoring wells to collect and analyze perched groundwater, if appropriate, and; 3) drilling to the saturated zone if perched groundwater does not exist. As of today, ten out of twelve groundwater monitoring wells identified in the FSP have been constructed. These wells include five wells constructed in the regional Upper Hydrostratigraphic Unit (UHSU) and five wells above the regional UHSU (areas of perched groundwater).

Due to variations in geology and difficulties in predicting the occurrence of perched groundwater in the field, additional wells are needed to ensure that the Data Quality Objectives (DQOs) of the OU 11 FSP are met. Three sites where drilling has been completed (94WSF-4, 94WSF-5, and 94WSF-7, as identified in the FSP) are recommended for further investigation. Rationale for further investigation is provided below.

Site 94WSF-4 (well number 50494):
Field Screening utilizing a soil moisture meter during drilling indicated that perched groundwater was likely to exist at this site. The indication was based on soil moisture contents that produced water in previously drilled wells at OU 11.

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A shallow well (50494). screened from 11.7 feet below ground surface (bgs) to 21.7 feet bgs was constructed at 94WSF-4 on July 27, 1994. As this well has not produced groundwater, it is necessary to drill to the saturated zone to meet the OU 11 DQOs at this location. DOE intends to investigate the occurrence of deeper perched water and drilling to the saturated zone if deeper perched water does not exist.

Site 94WSF-5 (well number 51494)
Site 94WSF-5 was the first site drilled. Initial technical issues caused the first borehole (designated as location 50594) to be abandoned and another borehole to be drilled nearby (51494). Based upon the soil moisture meter readings at 51494, it was not apparent that perched groundwater conditions were present and a monitoring well was installed in the upper portion of the saturated zone. However, after drilling 51494, it was discovered that the first borehole, 50594, drilled to 18 feet, held water, indicating the presence of a perched water zone. EG&G Rocky Flats, Inc., recommends drilling a shallow borehole near 50594 and installing a groundwater monitoring well in the perched zone if it is identified.

Site 94WSF-7 (well number 50794)
Relatively dry soils were encountered to a depth of 13 feet bgs upon drilling at 94WSF-7. At 13 feet, soil with high moisture content was evident, so a groundwater monitoring well was constructed with a screened interval from 13 to 23 feet. Groundwater levels were subsequently measured at approximately 4.8 feet below the ground surface. Based on the fact that soils above 13 feet are relatively dry and the groundwater rose to 4.8 feet, confined perched groundwater is thought to be present at this location. EG&G recommends the construction of an additional shallow groundwater monitoring well near 94WSF-7 to verify perched groundwater conditions.

As the OU 11 drilling program progresses, the presence of perched groundwater becomes easier to predict. Information gained as each borehole is drilled aids in determining the subsurface depth and well location for perched groundwater conditions. Based on OU 11 RFI/RI drilling results, three additional monitoring wells are recommended for construction at the West Spray Field so that the DQOs can be accomplished. Drilling depths for the additional wells are anticipated to be; 55 feet for site 94WSF-4; 25 feet for site WSF-5; and 10 feet for site 94WSF-7.

Impacts to the budget due to the proposed additional work will be minimal. Several of the wells constructed for the RFI/RI program are shallower than anticipated, so that impacts to the schedule will also be minimal.

We look forward to continued cooperative efforts to improve the overall performance of our environmental restoration effort. Any specific questions concerning OU 11 should be directed to Dave George at 966-5669.

Sincerely,

Steve Slaten
IAG Project Coordinator
Environmental Restoration

cc:
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K. O' Neill, EG&G